Amendments to the Specification:

Please replace paragraphs [0002], [0012], and [0017] with the following amended paragraphs:

[0002] The present invention relates generally to switches and use of switches for ~~manually~~ controlling an apparatus and/or a multiplexer. More particularly, the present invention relates to a switch whose output status changes in response to a predetermined rate-of-change of an output signal, and to controlling both switching and proportional functions of an apparatus and/or a multiplexer [[by]] in response to output signals ~~that preferably include both proportional output signals and rate-of-change signals~~.

[0012] In the same patent application, Lautzenhiser et al. teach control of a second device, such as a computer and its cursor, both of which may utilize voice-recognition technology to provide the required switching functions.

[0017] More particularly, the present invention provides rate-of-change switches, or rate-of-change control devices, that actuate in response to adjustable rate-of-change thresholds, timed-opportunity switches that can be actuated by one or more appropriately-timed inputs, and multiplexers, or ECUs, that can be used by physically-handicapped persons to control such things as wheelchair and hospital bed positioning actuators, lighting, entertainment, communication, computer and productivity devices.

Please cancel aspects 1-16, which reflected independent claims 1, 4, 9, 15, 21, 25, 28, 31, 50, 53, 57, 62, 63, 64, 66, and 68, of paragraphs [0037] - [0046], [0046.1], [0046.2], [0046.3], [0046.4], [0046.5], and [0046.6], as amended February 27, 2004 and resubmitted November 1, 2004.

In the present amendment, reflecting election of species and addition of new claims, please insert new aspects 1-12, which reflect independent claims 1, 4, 9, 15, 31, 50, 62, 63, 76, 81, 85, and 89, of paragraphs [0037] - [0046], [0046.1] and [0046.2], as follows:

[0037] In a first aspect of the present invention, a switch comprises: a transducer that produces an output signal in response to a user input; a differentiator connected to the output signal; and means, connected to the differentiator, for performing a first switching function.

[0038] In a second aspect of the present invention, a switch comprises: a transducer that produces an output signal in response to a user input; a first differentiator connected to the output signal; a second differentiator connected to the first differentiator; and means, connected to the second differentiator, for performing a first switching function.

[0039] In a third aspect of the present invention, a method comprises: producing an output signal in response to a user input; differentiating the output signal with respect to time; and performing a first switching function in response to the differentiated output signal.

[0040] In a fourth aspect of the present invention, a method comprises: body-member tilting a first tilt-sensitive transducer; producing a first output signal proportional to the tilting step; differentiating the first output signal with respect to time; and performing a first switching function in response to the differentiated first output signal.

[0041] In a fifth aspect of the present invention, a method comprises: body-member actuating a transducer; producing an output signal proportional to the body-member actuating step; and performing a switching function in response to a rate-of-change of the output signal.

[0042] In a sixth aspect of the present invention, a method comprises: body-member producing first and second proportional output signals; and controlling both first and second proportional functions and a switching function of an apparatus in response to the output signals.

[0043] In a seventh aspect of the present invention, a switch comprises: a mechanical-to-electrical transducer; a differentiator connected to the transducer; and a comparator connected to the differentiator.

[0044] In an eighth aspect of the present invention, a switch comprises: a transducer that produces increasing and decreasing output signals proportional to user actuation in first and second directions; and means, for producing a second switching function in response to a predetermined rate-of-

change of the output signal produced by user actuation of the transducer in one of the directions.

[0045] In a ninth aspect of the present invention, a method comprises: producing an output signal; selectively performing a switching function in response to the output signal; preventing variations in the output signal from performing the switching function; and performing the switching function in response to a predetermined rate-of-change of the output signal.

[0046] In a tenth aspect of the present invention, a method comprises: producing an output signal that is a function of an input; controlling an apparatus in response to the output signal; and performing a switching function in response to a predetermined rate-of-change of the output signal.

[0046.1] In an eleventh aspect of the present invention, a method comprises: performing a body-member gesture; controlling an output signal in response to the body-member gesture; maintaining a switch output status irrespective of the body-member gesture; and changing the switch output status in response to a predetermined velocity of the performing step.

[0046.2] In a twelfth aspect of the present invention, a method comprises: performing a body-member gesture; controlling an output signal in response to the body-member gesture; maintaining a switch output status irrespective of the controlling step; and changing the switch output status in response to a predetermined rate-of-change of the output signal.

Please replace paragraph [0077] with the following amended paragraph:

[0077] Referring now to FIGURE 1, a control system 10 is provided for control of an electrically-powered conveyance, or power wheelchair 12, and an environmental control unit (ECU) 14 by an X-Y input device, such as a tilt-axis X-Y input device **[[,]]** or tilt-axis X-Y ~~transducers~~ <u>transducer</u> 16, that are tilt sensitive, and that may be mounted to a head 18 of a person 20.

Please add the following new paragraph after paragraph [0305]:

[0305.1] Methods of the present invention, in addition to those recited in the independent claims and reflected in the aspects of the invention, include methods recited in the dependent claims, and in addition to, or alternately, those recited in the following paragraphs.

Please replace paragraph [0309] with the following amended paragraph:

[0309] In summary, the present invention provides apparatus and method for performing digital logic functions, such as switching, ~~as a function of proportional outputs of a mechanical-to-electrical transducer~~ in response to output signals that are differentiated with respect to time. The output signals are generated proportional to inputs. The inputs may be any means or method. In a preferred embodiment, body-member gestures are used for inputs.

Please add the following new paragraphs [0309.1], [0309.2], [0309.3], and [0309.4] after paragraph [0309]:

[0309.1] As defined herein, a body-member gesture is movement of a body-member in a direction that produces a desired change in an output signal, that produces a desired direction of change in an output signal, and/or that is used to achieve a desired switching function, to control an apparatus, and/or to achieve control of an apparatus.

[0309.2] That is, a user makes a body-member gesture that produces, controls, or makes a desired change in an output signal. In response to a predetermined rate-of-change of the output signal, a switching function is produced. The switching function is produced by differentiating the output signal.

[0309.3] Since switching occurs at a predetermined rate-of-change of the output signal, a switch output status remains unchanged when a rate-of-change switch is in any static position, and whenever a gesture is at a velocity below that which will produce the required rate-of-change of the output signal.

[0309.4] Since a rate-of-change of the output signal is directly proportional to the velocity of the gesture, it is equally accurate to say that the switch output status is changed as a function of the velocity of the gesture or at a predetermined rate-of-change of the output signal.